



Dear reader,

After 4 years of intense collaboration, the CommONEnergy partnership is coming to an end. Let me say "an happy end", based on the developed solution-sets for shopping centres' deep renovation as well as our methodological approach for an optimal implementation, reducing the gap between predicted and actual performances.

After the theoretical phase, when we simulated the potential performance achievements, and the implementation in demo-cases, we are now assessing the actual performances that will be reported and [soon available on the project website](#).

Being a large consortium, we faced challenges and delays, continuously adjusting the planning. Being a strong and motivated consortium, we also established a robust network of interested players in the retail sector and further, participating to many events to present and challenge the project results (just to mention an example: the successful "[lean pool](#)"). The results are promising, with several potential follow-ups, both considering market exploitation of technology and methodology achievements and further RTD projects.

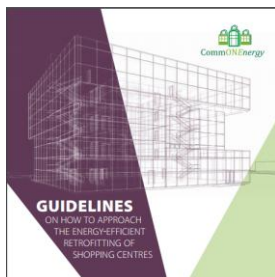
In particular, I would like to recommend what may be the most comprehensive document surfing through the project results, presented in a synthetic but very practical way: our [guidelines on how to approach the energy-efficient retrofitting of shopping centres](#).

Keep visiting the [project website](#), more news and reports will be uploaded in the coming weeks!

Kind regards,

Roberto Lollini, EURAC, project coordinator

In the spotlight



The how-to guide on the renovation of shopping centres

A concluding document of the work done in 4 years, the guidelines are a treasure box for facility managers, architects, owners, investors, designers and more, providing technology solutions and effective methodological approaches. Starting from an analysis of shopping centres' features and renovation drivers, the [guidelines](#) go through the developed processes, modelling and tools, focusing on the several technologies enabling the aggregation in cost-effective solution-sets. These [guidelines](#) can be key to launch a domino effect for the energy transition of shopping centres and similar buildings in the EU, such as airports or train stations.

Sustainable Building Challenge: three shopping centres rewarded!

On September 7, the [Sustainable Building Challenge](#) closed after a year-long process of identifying the best sustainable and energy-efficient European shopping centres. The winning shopping centres were rewarded in 3 categories:

- [IKVA Shopping Centre](#) – Sopron – Hungary, in the "Super Malls" Category;

- [CARREFOUR Hypermarket](#) – Nichelino – Torino – Italy, in the "Hyper Malls" Category;
- [CENTROSARCA Shopping Centre](#) - Sesto San Giovanni – Milano – Italy, in the "Mega Malls" Category.

The three projects adopted sustainability principles in refurbishment in a varied and innovative way using different assessment schemes (Breeam, LEED and Protocollo Itaca). The SBChallenge competition was managed by iISBE, the International Initiative for a Sustainable Built Environment, through its European chapter iISBE Italia.

Focus on



[Webinar] Innovative technologies and tools for energy-efficient shopping centres - summary and presentations

CommONEnergy partners, invited by the [Build UP](#) portal, organized a webinar to present the project. It went through the 24 passive and active solutions installed and tested by the project in four demo cases across Europe, and presented the related benefits, such as improving comfort, reducing costs and energy consumption. The technologies span from lighting, ventilation, refrigeration, building management systems to insulation, greenery integration and more. The tools supporting their implementation and assessing their environmental and social impact were also presented. The [presentations are available](#), the recordings will [be available](#) soon.

Shopping centres need specific technologies: discover the ones developed during the project in specific flyers

Over 24 technologies were developed during CommONEnergy, implemented in 4 demo cases or tested in research centres, to increase energy efficiency, comfort for shopping centres visitors, managers and employees, make the maintenance easier, reduce costs, etc. The passive and active solutions include [BIEM – Building-integrated electric mobility](#), [Modular multifunctional climate-adaptative façade system](#), [Smart coatings](#), [Safe NIMH battery – energy storage solution](#), [Natural lighting – Advanced Light Pipe](#), [Artificial lighting – Hybrid LED Spot](#), [Customised photovoltaic harvesters for direct façade integration](#), [Ventilative cooling](#), [HVAC supply diffuser](#) and [Environmental-friendly refrigeration in food stores](#). The other flyers [are available here](#).


News from the US

IMT, the Institute for Market Transformation, released two retail financing guides that help retailers understand what financing mechanisms are available for energy efficiency projects. One is an [internal finance guide](#), detailing internal strategies that can streamline project approvals.

The other is a guide to [external financing options](#) like green bonds and PACE financing. A [blog post](#) provides the context around these.

The guides are also linked to a [calculator](#) tool that retailers can use to filter their financing options (as an Excel spreadsheet).

In the news



ACROSS
HOME TOOLS CASES ARTS NEWSLETTER PROJECTS

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BEHF
CORPORATE ADVISORS

THE ROLE OF SHOPPING CENTERS IN A SUSTAINABLE FUTURE SOCIETY

Initially considered the “icons of consumerist society”, shopping centers are now becoming lighthouses of energy efficient systems and sustainable architecture.

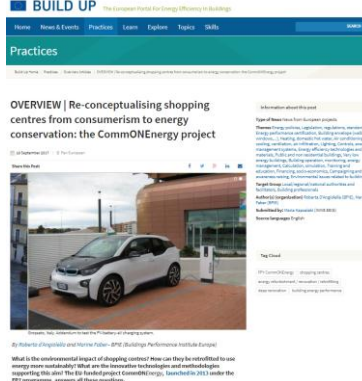
In the last few years, the EU funded project CommONEnergy has supported the transition by developing solutions such as deep, systemic retrofitting, as well as support tools and methods for energy efficiency retrofits, their management, continuous commissioning, environmental and socio-cultural impact assessment, and health and comfort analysis.

By Roberto D’Angeli and Maria Faber

Non-residential buildings make up a significant portion of the EU’s building stock (30% and GDP (11%). This means that meeting its final emitting goals need to high energy savings and CO₂ reductions and that is a great step in attaining the EU’s long-term energy and environmental climate objectives.

The renovation rate of shopping centers is high (4.4% compared to the rate of the entire EU building stock (1%)), mainly because shopping centers are subject to constant change and evolution.

They are also regularly refurbished and redesigned for marketing reasons. They must remain highly attractive



BUILD UP
The European Portal for Energy Efficiency in Buildings

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OVERVIEW | Re-conceptualising shopping centres from consumerism to energy conservation: the CommONEnergy project

Information about this post

Type of News Item: European projects

What is the environmental impact of shopping centres? How can they be retrofitted to use energy more sustainably? What are the innovative technologies and methodologies supporting this shift? The EU funded project CommONEnergy, launched in 2013 under the FP7 programme, answers these questions.

Tag Cloud

CommONEnergy shopping centres
CommONEnergy renovation commissioning
CommONEnergy building performance

By Roberto D’Angeli and Maria Faber - BEHF (Building Performance Institute Europe)



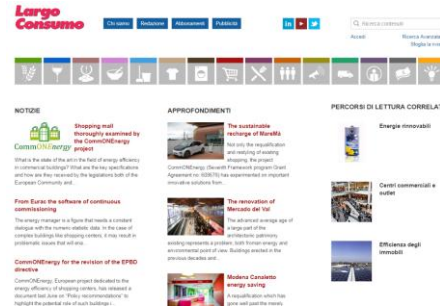
Reimagining the energy system - smart buildings and electric vehicles

CommONEnergy project: a European initiative to improve energy efficiency in buildings and transport.

BPiE

CommONEnergy project: a European initiative to improve energy efficiency in buildings and transport.

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NOTICE

Shopping mall thoroughly examined by the CommONEnergy project

What is the role of energy efficiency in commercial buildings? What are the key specifications and how are they impacting the regulations both of the European Community and...

From Exelix the software of continuous commissioning

The energy manager is a figure that needs a constant dialogue with various stakeholders, also in the case of commissioning building life support systems. It may result in problematic issues that will also...

CommONEnergy for the revision of the EPBD directive

CommONEnergy: European project dedicated to the energy efficiency of shopping centres. Has released a "Renovation list" (see on "Policy recommendations") to highlight the potential of each building...

APPROFONDIMENTI

The sustainable recharge of batteries

How can the requirements and needs of existing shopping centres? CommONEnergy (European Framework project) (Smart Agreement in 2013) has implemented an important innovative solution from...

The renovation of Mercade del Val

How can the requirements and needs of existing shopping centres? CommONEnergy (European Framework project) (Smart Agreement in 2013) has implemented an important innovative solution from...

Modernisation of energy savings

A new quality standard which has gone well beyond the energy...

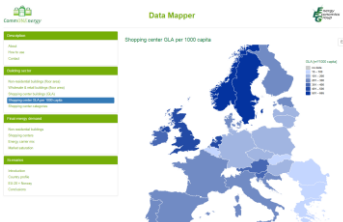
PERCORSI DI LETTURA CORRELATI

Energie rinnovabili

Casei commerciali e uffici

Efficienza degli immobili

Tools



Data Mapper

Shopping center (GLA per 1000 m²)

Map of Europe showing shopping center density by region.

Data mapper and scenario tool

The [data mapper](#) gives a comparative cross-country analysis of the most relevant commercial building types with a focus on shopping centres throughout Europe. The analysis provides indicators such as shopping centre gross leasable area (GLA) and final energy demand. A [scenario tool](#) gives a quick, easy and tailor-made access to national and international indicators on the commercial building stock (in the EU28 and Norway by 2030). The scenarios take into account (i) specific power consumption and operating duration for lighting, appliances, refrigeration and ventilation, (ii) shopping centres GLA, (iii) developments in building renovation and new construction and (iv) standard and advanced energy efficiency technologies (v) policy instruments.



Lean Pool methodology: a hands-on training on how to efficiently manage construction works

For a construction project to finish within time and budget, multiple processes, including diverse actors, technologies and equipment, need to connect smoothly. Without comprehensive planning, the preconditions for an efficient process are rarely in place. CommONEnergy’s Lean Pool methodology, also known as [WE Build, the Collaborative Planning Simulation Game](#), applies a “customer perspective”, which helps construction managers to avoid efficiency losses. The idea of the Lean Pool is to start planning from the “last assembly

step”: the whole process, including all activities involved, is planned backwards, from the end to the beginning. A [flyer](#) presents the methodology in more details.

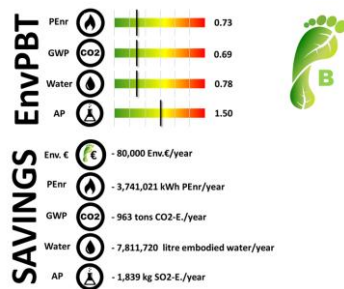
The screenshot shows the 'Reference building' section of the CommONEnergy software. It includes a table for 'General data' with the following entries:

Urban context	Urban
Climate	EU27
Reference	Reference
Year of construction	1973
Year of refurbishment	2007
GFA before refurbishment [m²]	47000
GFA after refurbishment [m²]	47000
Shopping centre area [m²]	12000
Shopping centre built footprint [m²]	12000
Footprint of the building [m²]	47000
Yearly working hours [h]	20712
Construction area [m²]	10000
No. of operating hours per day [h]	10.5
No. of operating days per week [days]	5
No. of shopping days per year (percentage of building days)	5

Integrated Design Process library

This [user-friendly tool](#) provides designers, owners and managers relevant information to start a shopping centre retrofitting process. It collects information about shopping centres’ archetypes and specific technology features, as well as climate, social and urban contexts connected to the reduction of energy needs and increase of energy efficiency. Building energy simulation models are used to identify the most suitable and economical solution-set for a shopping centre retrofitting and to estimate the relative energy savings, to ensure an effective investment, while effectively exploit local natural sources and infrastructures.

To contribute and feed the library with your data, [contact us](#).



Environmental and social impact assessment tool

In order to reach the European environmental goals, it is important to develop new energy-efficient technologies as well as establish transparency on the construction market and make people aware of the energetic, environmental and social impacts of buildings. To do so, the standardized Life Cycle Assessment (LCA) methodology serves as a basis. For CommONEnergy, [generic LCA models for shopping centres were developed within the LCA expert software GaBi 6](#) to assess the environmental and social impacts. The models can be adapted to assess the impact of the refurbishment of other shopping centres within the EU27. As an outcome, many environmental impacts can be addressed over the entire lifecycle – from the resource extraction in mines, over the production of intermediates and the use phase until the end-of-life.

The screenshot shows the 'General information' section of the Sustainability tool. It includes fields for: Name of the building, Address of the building, Description of the building, City, Year of building start, Climate, Number of floors, Number of floors to be assessed, Number of floors to be assessed (with a dropdown menu), Number of floors, Description of the building (with a dropdown menu), and Number of floors to be assessed (with a dropdown menu). It also features a 'Functional unit' section and logos for iiSBE and Fraunhofer.

Sustainability tool

Within CommONEnergy, two versions of a [sustainability assessment](#) were developed based on existing green building certification schemes. In a first approach, a screening sustainability assessment tool was set up together with iiSBE Italia R&D to allow for a quick assessment of the planned refurbishment measures. For the complete sustainability assessment, the method of the [FP7 research project OPEN HOUSE](#) was taken as basis and enhanced to fit the need of shopping centres. Within an excel sheet, all needed information was summed up and could be entered by ticking boxes and drop-down selection menus. In some cases, detailed information (numeric values) had to be inserted, therefore, specific software tools were linked to the sheet. All in all, the tool helps planners and designers to address the sustainability of their rehabilitation measures and guides them to hot spot fields.

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